REMARKS

1. Introduction

In the Office Action mailed November 29, 2007, the Examiner rejected claims 1-6, 8, 16-18, and 20-24 under 35 U.S.C. § 103(a) as allegedly being unpatentable over O'Connor, U.S. Pub. No. 2004/0002339 ("O'Connor") in view of Bansal et al., U.S. Pub. No. 2004/0264500 ("Bansal").

The Examiner rejected claims 9-10 under 35 U.S.C. § 103(a) as allegedly being unpatentable over O'Connor in view of Lee et al., U.S. Pat. No. 6,138,025 ("Lee").

The Examiner rejected claims 11-14 under 35 U.S.C. § 103(a) as allegedly being unpatentable over O'Connor and Lee and further in view of Bansal.

The Examiner rejected claim 7 under 35 U.S.C. § 103(a) as allegedly being unpatentable over O'Connor and Bansal and further in view of Nee et al., U.S. Pat. No. 6,876,857 ("Nee").

The Examiner rejected claim 15 under 35 U.S.C. § 103(a) as allegedly being unpatentable over O'Connor, Bansal, and Lee and further in view of Nee.

The Examiner rejected claim 19 under 35 U.S.C. § 103(a) as allegedly being unpatentable over O'Connor, Bansal, and further in view of Lee.

For the reasons set forth below, Applicants respectfully request reconsideration and allowance of the application.

2. Response to Claim Rejections

a. Claims 1-8

Of these claims, claim 1 is independent. The Examiner has rejected claim 1 under § 103(a) as being unpatentable over O'Connor in view of Bansal. In response, Applicants submit

McDONNELL BOEHNEN
HULBERT & BERGHOFF LLP
300 SOUTH WACKER DRIVE
CHICAGO, ILLINOIS 60606
TELEPHONE (312) 913-0001

that this rejection is improper and should be withdrawn because O'Connor in view of Bansal does not teach "determining that the number of active mobile stations exceeds a threshold and responsively changing the bandwidth allocation algorithm, so as to change how the system dynamically allocates the radio frequency bandwidth among the mobile stations," as recited in claim 1.

The Examiner alleged that O'Connor's teaching of dynamically allocating radio frequency bandwidth based on the number of mobile devices that have stopped or restarted corresponds to "determining that the number of active mobile stations exceeds a threshold and responsively changing the bandwidth allocation algorithm, so as to change how the system dynamically allocates the radio frequency bandwidth among the mobile stations," as recited in claim 1. *See* Office Action, p. 3. O'Connor describes an Internet telephony gateway (ITG), which includes a network bandwidth allocation device that allocates the available bandwidth in a network, based on the number of active devices, codec selection, suspension actions taken by active devices, and reuse of bandwidth allocated to silent devices. O'Connor's ITG is illustrated in Figures 1 and 2 and is described in paragraphs 0052-0058.

However, O'Connor does not disclose or suggest changing a bandwidth allocation ***algorithm***. O'Connor describes changing bandwidth allocation to a device based on the number of active devices, the codec allocated to the device, and the event that the device either suspends a call or goes silent. *See* paragraphs 52-58. But this is not the same as changing the bandwidth allocation ***algorithm***. Applicants' specification describes several different bandwidth allocation algorithms, including a common-data-throughput algorithm, a common-power algorithm, and a maximum-aggregate-power algorithm. *See* Specification, p. 15, line 20 – p. 17, line 7. In contrast, O'Connor describes only one bandwidth allocation algorithm and does not suggest that

McDONNELL BOEHNEN
HULBERT & BERGHOFF LLP
300 SOUTH WACKER DRIVE
CHICAGO, ILLINOIS 60606
TELEPHONE (312) 913-0001

the bandwidth allocation algorithm (i.e., the method of allocating bandwidth) ever changes. Thus, O'Connor does not disclose or suggest changing a bandwidth allocation algorithm for any reason, much less changing the bandwidth allocation algorithm based on the number of active devices.

In paragraph 57, O'Connor describes allocating additional bandwidth to devices when the amount of available bandwidth increases. However, this is simply an instance of allocating bandwidth pursuant to a particular bandwidth allocation algorithm, rather than changing the bandwidth allocation algorithm. Put another way, the ***bandwidth allocation*** changes in response to changes in the available bandwidth, but the ***bandwidth allocation algorithm*** stays the same. This is because the O'Connor's bandwidth allocation algorithm takes into the amount of bandwidth that is available at any given time:

> The codec will be selected ***having regard to the bandwidth free on the network***, the priority assigned to each device (e.g. the chief executive's telephone might always be assigned a high quality codec), and the number of other devices which might be expected to become active during the call (i.e. leaving enough bandwidth for other calls to be made).

See paragraph 52 (emphasis added). That means the bandwidth allocation will change as additional bandwidth becomes available, but the method for allocating the additional bandwidth (i.e., the bandwidth allocation algorithm) does not change.

Thus, in O'Connor, the system dynamically allocates bandwidth but does not change ***how*** the system dynamically allocates the bandwidth. To the contrary, the ***how*** stays the same, "with bandwidth being optimised constantly as each device indicates to other devices on the network that it has stopped or restarted transmitting traffic." *See* paragraph 21.

Accordingly, Applicants submit that O'Connor fails to disclose or suggest at least the element of claim 1 that recites "determining that the number of active mobile stations exceeds a

McDONNELL BOEHNEN
HULBERT & BERGHOFF LLP
300 SOUTH WACKER DRIVE
CHICAGO, ILLINOIS 60606
TELEPHONE (312) 913-0001

threshold and responsively changing the bandwidth allocation algorithm, so as to change how the system dynamically allocates the radio frequency bandwidth among the mobile stations." Applicants further submit that Bansal does not make up for this deficiency in O'Connor.

Also, O'Connor does not explicitly disclose "determining that a number of active mobile stations exceeds a threshold" as recited in claim 1. O'Connor describes determining a number of active devices. *See* paragraph 52. However, O'Connor does not disclose comparing the number of active devices to a threshold. Applicants further submit that Bansal does not make up for this deficiency in O'Connor.

For at least the foregoing reasons, claim 1 is allowable over O'Connor and Bansal, and claims 2-8 are allowable as depending from an allowable claim.

b. Claims 9-15

Of these claims, claim 9 is independent. The Examiner rejected claim 9 as allegedly being unpatentable over O'Connor in view of Lee. In response, Applicants submit that the rejection is improper and should be withdrawn because the combination of O'Connor and Lee fails to disclose or suggest each and every element of claim 9, as set forth below.

Claim 9 recites, *inter alia*, "responsively changing a bandwidth allocation algorithm, wherein the bandwidth allocation algorithm is used to allocate a forward supplemental channel among the mobile stations, and wherein the ***forward supplemental channel is used to send voice or data traffic*** from a base station to the mobile stations as part of providing the communication services."

Neither O'Connor nor Lee disclose or suggest the use of a forward supplemental channel for sending voice or data traffic, as recited in claim 9. The Examiner stated "O'Connor fails to explicitly teach the wireless network is a CDMA network and wherein the bandwidth allocation

algorithm is used to ***allocate a forward supplemental channel among the mobile stations*** and wherein the forward supplemental channel is used to send voice or data traffic from a base station..." Office Action, p. 11 (emphasis added). Instead, the Examiner relied on Lee for this element.

Lee describes, primarily in the context of a TDMA network, use of a forward link that is divided into logical subchannels and is transmitted to all mobiles operating within range of a base station. *See* col. 6, lines 8-23. The logical subchannels include a Fast Broadcast Channel (FBCCH) and an Extended Broadcast Channel (EBCCH). The Examiner has suggested that the FBCCH channel is allocated among mobile stations. *See* Office Action, p. 11. However, as ***broadcast*** channels, the FBCCH and the EBCCH channels are received by all mobile stations within range of the base station. *See* col. 6, lines 8-11. Thus, the channels are not allocated among the mobile stations. Therefore, Lee does not disclose allocating a forward supplemental channel among the mobile stations.

Further, neither O'Connor nor Lee discloses or suggests changing a bandwidth algorithm, as recited in claim 9. As discussed above for claim 1, O'Connor does not disclose or suggest changing a bandwidth allocation algorithm for any reason. Applicants submit that Lee does not make up for this deficiency of O'Connor of failing to disclose or suggest changing a bandwidth allocation algorithm.

Accordingly, Applicants submit that claim 9 is allowable over O'Connor and Lee for at least the foregoing reasons. Applicants further submit that claims 10-15 are allowable for at least the reason that they are dependent on an allowable claim.

c. Claims 16-19

Of these claims, claim 16 is independent. The Examiner has rejected claim 16 under § 103(a) as being unpatentable over O'Connor and Bansal. Applicants submit that neither O'Connor nor Bansal discloses or suggests at least the elements of claim 16 of "determining that the number of mobile stations concurrently being provided communication services by the wireless network is below a predetermined threshold number" and "determining that an amount of voice or data traffic buffered at a base station for transmission to a mobile station as part of providing the communication services is above a predetermined threshold amount."

Neither O'Connor nor Bansal discloses use of a threshold number of active devices. O'Connor describes an ITG that determines a number of active devices. *See* paragraph 52. However, O'Connor does not disclose use of a threshold number of active devices, much less comparing the number of active devices to a threshold number as recited in claim 16. Applicants further submit that Bansal does not make up for this deficiency in O'Connor.

Neither O'Connor nor Bansal discloses or suggests comparing buffered traffic to a threshold as recited in claim 16. O'Connor describes an ITG that allocates the available bandwidth in a network. *See* paragraphs 52-58. However, O'Connor does not disclose or suggest buffering an amount of voice or data traffic, use of a predetermined threshold amount of buffered voice or data traffic, or determining that the buffered amount of voice or data traffic is above the predetermined threshold amount, as recited in claim 16. Applicants further submit that Bansal does not make up for this deficiency in O'Connor.

For at least the foregoing reasons, claim 16 is allowable over O'Connor and Bansal, and claims 17-19 are allowable for at least the reason that they depend on an allowable claim.

d. Claims 20-24

Of these claims, claim 20 is independent. The Examiner has rejected claim 20 under § 103(a) as being unpatentable over O'Connor in view of Bansal. Applicants submit that neither O'Connor nor Bansal discloses or suggests at least the element of claim 20 of "program logic, stored in data storage and executable on a processor, to determine that a number of active mobile stations are operating concurrently in the given coverage area and to change the bandwidth allocation algorithm based on the number, so as to change how the system dynamically allocates the radio frequency bandwidth."

Neither O'Connor nor Bansal disclose or suggest changing a bandwidth allocation algorithm based on the number of active mobile stations. O'Connor describes an ITG that allocates the available bandwidth in a network. *See* paragraphs 52-58. As discussed above for claim 1, O'Connor does not disclose or suggest changing a bandwidth allocation algorithm for any reason, much less changing the bandwidth allocation algorithm based on the number of active mobile stations.

Accordingly, Applicants submit that O'Connor fails to disclose or suggest "program logic… to determine that a number of active mobile stations are operating concurrently in the given coverage area and to change the bandwidth allocation algorithm based on the number, so as to change how the system dynamically allocates the radio frequency bandwidth," as recited in claim 20. Applicants further submit that Bansal does not make up for this deficiency in O'Connor.

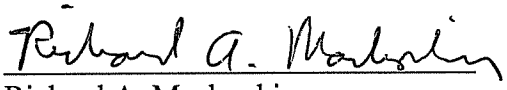
For at least the foregoing reasons, claim 20 is allowable over O'Connor and Bansal, and claims 21-24 are allowable for at least the reason they depend on an allowable claim.

3. Conclusion

Applicants submit that the present application is in condition for allowance, and notice to that effect is hereby requested. Should the Examiner feel that further dialog would advance the subject application to issuance, the Examiner is invited to telephone the undersigned at any time at (312) 913-0001.

Respectfully submitted,

Dated: February 26, 2008

By: 

Richard A. Machonkin
Reg. No. 41,962

McDONNELL BOEHNEN
HULBERT & BERGHOFF LLP
300 SOUTH WACKER DRIVE
CHICAGO, ILLINOIS 60606
TELEPHONE (312) 913-0001